



UNITED STATES PATENT AND TRADEMARK OFFICE

DEB
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,553	04/02/2001	Kirk Johnson	2762.2002-002	9887
21005	7590	10/05/2005	EXAMINER	
HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133			PATEL, JAY P	
			ART UNIT	PAPER NUMBER
			2666	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/824,553	JOHNSON ET AL.	
	Examiner	Art Unit	
	Jay P. Patel	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 04/02/2001.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-12, 19-23, 26-34, 37 and 38 is/are rejected.
- 7) Claim(s) 13-18, 24, 25, 35 and 36 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 02 April 2001 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-12, 19-23, 26-34 and 37-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Albert et al. (U.S. Patent No. 6650641 B1).

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

3. In regards to claims 1 and 29, Albert discloses in figure 2 a plurality of clients 201-203, a network 210, forwarding agents 231, 232, service mangers 241, 242 and a group of servers 220. Furthermore, figure 11 illustrates how a forwarding agent and a service manager implement NAT between a client and a virtual machine (see figure 11 and column 28, lines 1-19). The forwarding agent and the service manager, anticipate a translating device and the virtual machine anticipates a server. The implementation

of the NAT by the forwarding agent and a service manger anticipates initiating communications, from a server behind the translating device, which effect the network address translation.

In further regards to claims 1 and 29, the service manger selects one of the hosts using a load-balancing algorithm. The algorithms may include round robin, fastest available host, and a host with the least number of connections or a host determined by feedback mechanism to be the best host to handle the connection (see column 28, lines 20-27). The load-balancing algorithm anticipates monitoring the communications beyond the translating device to infer partitioning of servers into equivalence sets relative to the network topology induced by network address translation.

In regards to claims 2 and 3, Albert discloses in figure 7, a wildcard affinity diagram. The wildcard affinity diagram includes a source IP address.

In regards to claim 4, the source IP address included in the wildcard affinity diagram also anticipates a unique identification number in the message.

In regards to claim 5, Albert discloses in figure 13, a flowchart illustrating a process implemented on a forwarding agent for executing NAT as directed by a service manger. In the affinity step 1306, the forwarding agent checks the action specified in the affinity. If the action specifies that the packet is to be forwarded to the service manger, then control is transferred to step 1308 and the packet is sent to a service manger. If the action specifies that the packet is to undergo Nat then control is transferred to step 1310 where the source IP address is changed (see figure 13, and column 29, lines 56-67 and column 30, line 1). The action that specifies whether the

packet is to go NAT or forwarded to the service manager, anticipates distinguishing between communications affected by and not affected by network address translation.

In regards to claim 6, Albert discloses in figure 13, a flowchart illustrating a process implemented on a forwarding agent for executing NAT as directed by a service manger. If the action specifies that the packet is to undergo Nat then control is transferred to step 1310 where the source IP address is changed (see figure 13, and column 29, lines 56-67 and column 30, line 1). The changing of the IP address anticipates comparing an apparent source address of a message against an actual source address provided in the message.

In regards to claim 7, Albert discloses that to specify a single host the wildcard affinity include an IP address with a specific netmask. To specify the range of hosts (i.e from 1.1.1.0 to 1.1.1.255), the wildcard affinity would include IP address of 1.1.1.0 with a netmask of 255.255.255.0 (see column 17, lines 47-54). The range of host with the IP address, anticipate, assessing a range of network addresses behind the translating device.

In regards to claim 8, from figure 2A, it is evident that the host whether they are clients or servers, are connected to the service managers and forward agents; therefore, the disclosure used with regards to claim 7, is also applicable to claim 8.

In regards to claims 9 and 10, figure 2A discloses a plurality of clients, forwarding agents, service mangers and servers. The servers communicate with network through forwarding agents (see column 6, lines 46-53). The forward agents have a knowledge of the network and since the servers communicate to the network via the forwarding

agents, it is anticipated that passive and active clients are distinguished and that messages are directed from the passive to the active client.

In regards to claim 11, the service manager and the forwarding agent, respectively contain processors 252 and 272. Both processors are respectively connected to a network interface. The network interface in the forwarding agent is used to send and receive packets to and from other devices on the network (see column 9, lines 61-64). The network interface in the service manager allows the service manager to directly forward packets into the network from which it is providing a service (see column 10, lines 23-25). The respective processors and their connection to the network interface and its functions anticipate from a processor beyond the translating device, causing a message to a passive client to be redirected to an active client, the active client responsive communicating with the processor beyond the translating device.

In regards to claim 12, Albert discloses in figure 10F, a diagram illustration a NAT action segment (see figure 10F and column 24, lines 11-21). The NAT action segment anticipates maintaining at least one translated address set.

4. In regards to claim 19, Albert discloses in figure 2 a plurality of clients 201-203, a network 210, forwarding agents 231, 232, service managers 241, 242 and a group of servers 220. Furthermore, figure 11 illustrates how a forwarding agent and a service manager implement NAT between a client and a virtual machine (see figure 11 and column 28, lines 1-19). The forwarding agent and the service manager,

anticipate an apparatus located beyond a network-translating device to determining a topology of a network.

In further regard to claim 19, the service manager and the forwarding agent, respectively contain processors 252 and 272. Both processors are respectively connected to a network interface. The network interface in the forwarding agent is used to send and receive packets to and from other devices on the network (see column 9, lines 61-64). The network interface in the service manager allows the service manager to directly forward packets into the network from which it is providing a service (see column 10, lines 23-25). The processors anticipate a processor coupled to a network interface for receiving communication form a network device effecting network address translation.

In further regards to claim 19, the service manger selects on of the hosts using a load-balancing algorithm. The algorithms may include round robin, fastest available host, and a host with the least number of connections or a host determined by feedback mechanism to be the best host to handle the connection (see column 28, lines 20-27). The service manager algorithms, anticipate a processor routing operation on the processor, the processor routing to infer partitioning of servers into equivalent sets relative to the network topology induced by the network address translation.

In regards to claim 20, Albert discloses in figure 7, a wildcard affinity diagram. The wildcard affinity diagram includes a source IP address.

In regards to claim 21, Albert discloses in figure 13, a flowchart illustrating a process implemented on a forwarding agent for executing NAT as directed by a service

manger. If the action specifies that the packet is to undergo Nat then control is transferred to step 1310 where the source IP address is changed (see figure 13, and column 29, lines 56-67 and column 30, line 1). The changing of the IP address anticipates comparing an apparent source address of a message against an actual source address provided in the message.

In regards to claim 22, Albert discloses in figure 10F, a diagram illustration a NAT action segment (see figure 10F and column 24, lines 11-21). The NAT action segment anticipates including at least one translated address set, the source address being stored in the translated address set.

In regards to claim 23, Albert discloses in figures 2B and 2C that the forwarding agent and the service manager respectively contain memories 254 and 274 connected to the respective processors (see figures 2B and 2C). The memories anticipate, the processor coupled to the memory, the processor routine storing a database of translated address sets in the memory. Furthermore, Albert discloses in figure 10F, a diagram illustration a NAT action segment (see figure 10F and column 24, lines 11-21), which contains the translated address set as, stated in regards to claim 22.

5. In regards to claim 26, Albert discloses in figure 2 a plurality of clients 201-203, a network 210, forwarding agents 231, 232, service mangers 241, 242 and a group of servers 220. Furthermore, figure 11 illustrates how a forwarding agent and a service manager implement NAT between a client and a virtual machine (see figure 11 and column 28, lines 1-19). The forwarding agent and the service manager,

anticipate an apparatus located beyond a network-translating device to determining a topology of a network.

In further regard to claims 26 and 37, the service manager and the forwarding agent, respectively contain processors 252 and 272. Both processors are respectively connected to a network interface. The network interface in the forwarding agent is used to send and receive packets to and from other devices on the network (see column 9, lines 61-64). The network interface in the service manager allows the service manager to directly forward packets into the network from which it is providing a service (see column 10, lines 23-25). The processors anticipate a processor coupled to a network interface for receiving communication form a network device effecting network address translation.

In further regards to claims 26 and 37, the processors are contained within the service manager or the forwarding agent, which have addresses of their own and therefore, it is anticipated that the processor routing provides the actual network address of the processor in a message of the communications.

In regards to claims 27 and 38, the service manager and the forwarding agent, respectively contain processors 252 and 272. Both processors are respectively connected to a network interface. The network interface in the forwarding agent is used to send and receive packets to and from other devices on the network (see column 9, lines 61-64). The connection between the processor and the network interface, anticipate the said processor issuing communications in response to receiving a communication from behind the network address translation device.

6. In regards to claim 28, forwarding agent and the service manager respectively contain memories 254 and 274 connected to the respective processors (see figures 2B and 2C). The memories anticipate a computer usable medium for storing data.

In further regards to claim 28 and claim 30, Albert discloses in figure 2 a plurality of clients 201-203, a network 210, forwarding agents 231, 232, service mangers 241, 242 and a group of servers 220. Furthermore, figure 11 illustrates how a forwarding agent and a service manager implement NAT between a client and a virtual machine (see figure 11 and column 28, lines 1-19). The implementation of the NAT by the forwarding agent and a service manger anticipates receiving communications from a network device effecting network address translation.

In further regards to claim 28 and claim 30, the service manger selects one of the hosts using a load-balancing algorithm. The algorithms may include round robin, fastest available host, and a host with the least number of connections or a host determined by feedback mechanism to be the best host to handle the connection (see column 28, lines 20-27). The load-balancing algorithm anticipates inferring partitioning of servers into equivalence sets relative to the network topology by the network address translation.

In regards to claim 31, Albert discloses in figure 7, a wildcard affinity diagram. The wildcard affinity diagram includes a source IP address.

In regards to claim 32, Albert discloses in figure 13, a flowchart illustrating a process implemented on a forwarding agent for executing NAT as directed by a service manger. If the action specifies that the packet is to undergo Nat then control is

transferred to step 1310 where the source IP address is changed (see figure 13, and column 29, lines 56-67 and column 30, line 1). The changing of the IP address anticipates comparing an apparent source address of a message against an actual source address provided in the message.

In regards to claim 33, Albert discloses in figure 10F, a diagram illustration a NAT action segment (see figure 10F and column 24, lines 11-21). The NAT action segment anticipates including at least one translated address set, the source address being stored in the translated address set.

In regards to claim 34, Albert discloses in figures 2B and 2C that the forwarding agent and the service manager respectively contain memories 254 and 274 connected to the respective processors (see figures 2B and 2C). The memories anticipate, storing a database of translated address sets. Furthermore, Albert discloses in figure 10F, a diagram illustration a NAT action segment (see figure 10F and column 24, lines 11-21), which contains the translated address set as, stated in regards to claim 33.

Conclusion

7. Claims 13-18, 24-25 and 35-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay P. Patel whose telephone number is (571) 272-3086. The examiner can normally be reached on M-F 9:00 am - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jpp q130105
Jay P. Patel
Assistant Examiner
Art Unit 2666

Seema S. Rao
SEEMA S. RAO 10/1/05
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800